

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A wavelength division multiplexing and optical transmission apparatus comprising:

a plurality of optical transmitting units for modulating a plurality of laser signals having inherent wavelengths with a plurality of data signals and outputting a plurality of modulated optical signals occupying a signal band;

optical amplifying means ~~with non input and~~ for outputting an amplified spontaneous emission light signal, including an optical amplifier having a signal input terminal terminated without reflection;

band pass filtering means for band pass filtering the output of the optical amplifying means with a first filter circuit including a first plurality of parallel band pass filters connected to a first optical amplifier, and a second filter circuit parallel to the first filter circuit and including a second plurality of parallel band pass filters connected to a second optical amplifier, and outputting a respective first and second non-modulated spectrum slice optical signal, the first non-modulated spectrum slice optical signal being adjacent on a high side to the signal band, the second non-modulated spectrum slice optical signal being adjacent on a low side to the signal band; and

optical multiplexing means for multiplexing the non-modulated spectrum slice optical signals ~~with the plurality of modulated optical signals signal as a dummy signal of an optical to be added in the future with the modulated optical signals~~ and transmitting a multiplexed optical signal, wherein

said band pass filtering means includes means for controlling one of the first and second optical amplifiers to compensate for a lack of an amplified spontaneous emission light

~~signal at a predetermined wavelength a first and second plurality of band pass filters connected to a corresponding first and second optical amplifier.~~

Claim 2 (Currently Amended): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein

the optical amplifying means comprises a ~~second optical amplifier having a pair of optical amplifiers which each have a signal input terminal terminated at no reflection without reflection~~, and

the band pass filtering means comprises optical band pass filters for setting both the occupied wavelength band of the modulated optical signals output by the optical transmitting units and the neighboring wavelength band of the occupied wavelength band as the filtering wavelength band, filtering amplified spontaneous emission light signals output by the optical amplifiers and outputting non-modulated spectrum slice optical signals.

Claim 3 (Currently Amended): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein

the optical amplifying means comprises a single optical amplifier which has a signal input terminal terminated at no reflection, and

the band pass filtering means comprises a light dividing element for dividing the amplified spontaneous emission light signal output by the optical amplifier into a plurality of amplified spontaneous emission light signals, and a plurality of optical band pass filters, connected to a plurality of divided output terminals of the light dividing element respectively, for outputting the non-modulated spectrum slice optical signal.

Claim 4 (Currently Amended): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein

~~the optical amplifying means comprises a single optical amplifier which has a signal input terminal terminated at no reflection, and~~

the band pass filtering means comprises:

a light dividing element for dividing the amplified spontaneous emission light signal output by the optical amplifier into a plurality of amplified spontaneous emission light signals,

a plurality of optical band pass filters connected to a plurality of divided output terminals of the light dividing element respectively,

an optical multiplexer for multiplexing two or more outputs of the optical band pass filters with each other and outputting the non-modulated spectrum slice optical signal, and

an optical amplifier for amplifying an output of the optical multiplexer while controlling a power of the output to a constant value.

Claim 5 (Currently Amended): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein the optical amplifying means comprises:

~~an optical amplifier which has a signal input terminal terminated at no reflection, and~~

a plurality of pumping laser signal sources connected to the optical amplifier redundantly.

Claim 6 (Original): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein the band pass filtering means comprises a plurality of optical band pass filters connected in cascade.

Claim 7 (Currently Amended): A method for transmitting a wavelength division multiplexed optical transmission, comprising:

modulating a plurality of laser signals having inherent wavelengths with a plurality of data signals and outputting a plurality of modulated optical signals;

amplifying a spontaneous emission light signal from an optical amplifier having a signal input terminal terminated without reflection~~with non-input~~ and outputting an amplified spontaneous emission light signal;

band pass filtering the amplified spontaneous emission light signal with a first filter circuit including a first plurality of parallel band pass filters connected to a first optical amplifier, and a second filter circuit parallel to the first filter circuit and including a second plurality of parallel band pass filters connected to a second optical amplifier;

outputting a respective first and second non-modulated spectrum slice optical signal, the first non-modulated spectrum slice optical signal being adjacent on a high side to the signal band, the second non-modulated spectrum slice optical signal being adjacent on a low side to the signal band~~a non-modulated spectrum slice optical signal;~~

multiplexing the non-modulated spectrum slice optical signals with the plurality of modulated optical signals~~signal as a dummy signal of an optical signal to be added in the future with the modulated optical signals;~~ and

transmitting a multiplexed optical signal, wherein

said band pass filtering includes controlling one of the first and second optical amplifiers to compensate for a lack of an amplified spontaneous emission light signal at a predetermined wavelength

~~band pass filtering with a first and second plurality of band pass filters connected to a corresponding first and second optical amplifier.~~

Claim 8 (Currently Amended): The method of claim 7, wherein said step of amplifying comprises:

~~amplifying with a pair of optical amplifiers each second optical amplifier having a signal input terminal terminated at no reflection~~

Claim 9 (Currently Amended): The method of claim 7, ~~wherein said step of amplifying comprises:~~

~~amplifying with a single optical amplifier which has a signal input terminal terminated at no reflection, said method further comprising:~~

dividing the amplified spontaneous emission light signal output by the optical amplifier into a plurality of amplified spontaneous emission light signals.

Claim 10 (Currently Amended): The method of claim 7, ~~wherein said step of amplifying comprises:~~

~~amplifying with a single optical amplifier which has a signal input terminal terminated at no reflection, said method further comprising:~~

dividing the amplified spontaneous emission light signal output by the optical amplifier into a plurality of amplified spontaneous emission light signals,

multiplexing two or more outputs with each other and outputting the non-modulated spectrum slice optical signal, and
amplifying an output while controlling a power of the output to a constant value.

Claim 11 (Previously Presented): The method of claim 7, further comprising:
pumping a plurality of laser signal sources connected to an optical amplifier
redundantly.

Claim 12 (Previously Presented): The method of claim 7, wherein said step of band pass filtering comprises:

band pass filtering with a plurality of optical band pass filters connected in cascade.

Claim 13 (New): A wavelength division multiplexing and optical transmission apparatus according to claim 1, wherein the band pass filtering means comprises a high pass filter.

Claim 14 (New): The method of Claim 7, wherein said step of band pass filtering comprises:

high pass filtering.